

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim 18 have been considered but are moot in view of the new ground(s) of rejection.

2. Applicant's arguments filed on 02/28/2008 have been fully considered but they are not persuasive.

On page 9 of the Remarks, applicants disagrees with Examiner's assessment that "an article comprising" is a non-functional descriptive material. Applicants further states that claim 18 is related to an article of manufacture that includes a at least one storage medium that contains instruction. Thus, continue applicants, there clearly exists both structural and functional interrelationships between the claimed elements and the underlying hardware.

Examiner respectfully disagrees. The language of claim 18 does not read an "article of manufacture." It simply reads, "an article." The breadth of this disclosure includes instructions stored on paper, i.e., printed matter.

See MPEP § 2106.01. Data structures not claimed as embodied in tangible computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed tangible computer readable medium encoded with a data structure defines

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structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs are not physical “things.” They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

Therefore, the rejection stands.

On page 10 of the remarks, Applicants argue that even if Arcens and Vanttinen were to be combined, their hypothetical combination would not have led to the claimed subject matter. A problem with the citation of Vanttinen as disclosing claimed subject matter that is not present in Arcens is that the paging message of Vanttinen does not contain an indication of whether the paging message is related **to at least one** of an emergency-related location service and a law enforcement-related location service. Therefore, even if Arcens and Vanttinen were to be hypothetically combined, the hypothetical combination would still be missing the following element of claim 1: a paging message containing an indication of whether the paging message is related to at least one of an emergency-related location service and a law enforcement-related location service.

Examiner respectfully disagrees.

Arcens discloses a privacy engine 120 within a mobile station receives a position request. The received position request data may comprise requestor category (e.g.) emergency service, commercial service, individual person (i.e., see fig. 1, paragraphs 21, 41, and 46-47). Thus, as can be seen the position request does contain information related to emergency-related location service (i.e., emergency service), commercial service, individual person.

Now, what is not specifically disclosed in Arcens is that the position request is a paging signal.

Vanttinen discloses a core network of the radio system transmits a location service request message to the radio network of the radio system; (304) the radio network transmits information to a subscriber terminal in a paging message that the subscriber terminal is requested to initiate the location service (see abstract). The paging message may also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters (see paragraph 59).

Both Arcens and Vanttinen disclose a mobile station that receives a position request. The position request disclosed in Arcens included information related to emergency location service. And, Vanttinen discloses that position request received by the mobile station was sent in a paging message.

The combination of Arcens and Vanttinen is proper and reads on the claims as written.

Applicants also argue on page 11 of the Remarks that Also, in Response to applicants' arguments that there exists no reason to substitute the location request (which is a non-paging

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message) of Arcens with the paging message of Vanttinen. Note that the mobile station 102 of Arcens contains a location application block 114, which can be self-contained and does not require interaction with an external network, or alternatively, may involve interaction with an external location request application 108. In the latter context, where a location request is received from the external application 108, such a location request is an application-to-application location request. This form of location request that involves communication of data between different applications (one in the mobile station, and another one external to the mobile station) would clearly not involve data carried in a paging message.

Examiner respectfully disagrees.

In paragraph 30, Arcens discloses that the Location Request Application block 108 of FIG. 1 represents Location Request Applications connected via the external data networks 110 to receive and transmit data to the Mobile Station 102. Location Request Applications 108 is coupled, via the external data network 110 and the Wireless Network Communication Module 112, to receive and transmit data to the Privacy Engine 120.

As can be appreciated above, the location request application 108 transmits request to the mobile station via the external data network 110 and the wireless network communication module. Therefore, one skilled in the art would immediately conceptualize that the location request application 108 can transmit request to the mobile station in a paging message. Since, this disclosure was not specifically disclosed in Arcens, Vanttinen, which disclosed transmitting location request in a paging message, is combined with Arcens.

Regarding claims 22 and 27, Applicants are referred to above response.

Regarding claim 8, Applicants argue that the combination of Arcens and Vanttinen would not have led to the claimed subject matter since Vanttinen does not disclose claimed subject matter that is missing from Arcens; namely, Vanttinen does not disclose or hint at communicating a paging message containing an indication of whether the paging message is related to at least one of an emergency-related location service and a law enforcement-related location service, where the paging message is a paging request sent from a mobile switching center to a base station.

Examiner respectfully disagrees.

Arcens discloses a location request application block 108 that is coupled via an external network to receive and transmit location request to the mobile station (see paragraph 30). Thus, the position request message is sent to (via) the external network and then to the mobile station.

Vanttinen discloses a method comprising a mobile services switching center 132, which is one of the devices belonging to the circuit-switched transmission of the core network CN (paragraph 30), a base station 100, and a mobile station (see fig. 1B, paragraph 25).

Now, in fig. 3, Vanttinen discloses the following steps: the core network, wherein a MSC is belonged, transmits request message for initiating location service to radio network, wherein a base station belongs. The radio network transmits information to subscriber terminal in paging message that subscriber terminal is requested to initiate location service.

Also, paragraphs 56-59 described an outside LCS_Client of the location service requests information on the location of a subscriber terminal by sending a location service request to the GMLC. Then, the core network of the radio system, i.e. the SGSN in our example, transmits a request message 406 to the radio network of the radio system, i.e. the BSS in our message, in

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block 302. The radio network BSS transmits information in a paging message 408 to the subscriber terminal MS that the subscriber terminal MS is requested to initiate the location service.

Therefore, one skilled in the art would have unhesitatingly conceptualized that the MSC transmits position request to the base station.

Also, as stated above, Arcens discloses a privacy engine 120 within a mobile station receives a position request. The received position request data may comprise requestor category (e.g.) emergency service, commercial service, individual person (i.e., see fig. 1, paragraphs 21, 41, and 46-47). Thus, as can be seen the position request does contain information related to emergency-related location service (i.e., emergency service), commercial service, individual person.

Therefore, the combination of Arcens and Vantinen reads on the claim 8 as written.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 18-21 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claim reads, “an article comprising...”, which is a nonfunctional descriptive material, and does not define any structural and functional interrelationships between the claimed elements which permit functionality to be realized.

Examiner respectfully disagrees. The language of claim 18 does not read an “article of manufacture.” It simply reads, “an article.” The breadth of this disclosure includes instructions stored on paper, i.e., printed matter.

See MPEP § 2106.01. Data structures not claimed as embodied in tangible computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed tangible computer readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs are not physical “things.” They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3-5, 8, 11, 13, 22, 25-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arcens, Pub. No. US 20040176104 in view of Vanttinen et al. (Vanttinen), Pub. No. US 20010009544.

Regarding claim 1, Arcens discloses a method of performing a location service with respect to a mobile station (see abstract), comprising: communicating, to the mobile station a message containing an indication of whether the message is related to at least one of an emergency-related location service and a law enforcement-related location service, the indication having a first state to indicate that the message is related to at least one of the emergency-related location service and the law enforcement-related location service (i.e., in fig. 1, Arcens discloses that the mobile station comprises a user interface, a wireless network communication module, a local communication module, and a privacy engine 120 (see fig. 1). In fig. 2a, Arcens discloses that the privacy engine 120 receives a position request. The position request data may comprise requestor category (e.g.) emergency service, commercial service, individual person (i.e., see fig. 1, paragraphs 21, 41, and 46-47); and receiving information regarding the location of the mobile station (i.e., for an emergency service request, position data is returned to the requester as expeditiously as possible) (see paragraphs 46-47, and 67).

Although Arcens discloses a method as described above, Arcens does not specifically disclose communicating a paging message to the mobile station.

However, Vanttinen discloses a method comprising communicating paging message to a mobile station (i.e., the radio network BSS transmits information in a paging message 408 to the

subscriber terminal MS that the subscriber terminal MS is requested to initiate the location service. The paging message may also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters. In that case the BSSGP PS paging message used in the GPRS or the RANAP paging message used in the UMTS has to be modified) (see paragraph 59).

Also, Arcens discloses a privacy engine 120 within a mobile station receives a position request. The received position request data may comprise requestor category (e.g.) emergency service, commercial service, individual person (i.e., see fig. 1, paragraphs 21, 41, and 46-47). Thus, as can be seen the position request does contain information related to emergency-related location service (i.e., emergency service), commercial service, individual person.

Now, what is not specifically disclosed in Arcens is that the position request is a paging signal.

Vanttinen discloses a core network of the radio system transmits a location service request message to the radio network of the radio system; (304) the radio network transmits information to a subscriber terminal in a paging message that the subscriber terminal is requested to initiate the location service (see abstract). The paging message may also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters (see paragraph 59).

Both Arcens and Vanttinen disclose a mobile station that receives a position request. The position request disclosed in Arcens included information related to emergency location service.

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And, Vanttinen discloses that position request received by the mobile station was sent in a paging message.

As can be appreciated above, the location request application 108 transmits request to the mobile station via the external data network 110 and the wireless network communication module. Therefore, one skilled in the art would immediately conceptualize that the location request application 108 can transmit request to the mobile station in a paging message. Since, this disclosure was not specifically disclosed in Arcens, Vanttinen, which disclosed transmitting location request in a paging message, is combined with Arcens.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to accurately determine the location of the MS.

Regarding claim 3, Arcens discloses a method as described above (see claim 1 rejection).

Although Arcens discloses a method as described, Arcens does not specifically disclose wherein communicating the page containing the indication comprises sending one of a general page message (GPM) containing the indication and a universal page message (UPM) containing the indication.

However, Vanttinen discloses a method wherein a radio network BSS transmits information in a paging message 408 to the subscriber terminal MS that the subscriber terminal MS is requested to initiate the location service. The paging message may also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters. In that case the BSSGP PS paging message used in the GPRS or the RANAP paging

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message used in the UMTS has to be modified. Furthermore, Applicant has not disclosed that having a page comprising of a general page message or a universal page message solves or accomplishes any stated problem.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the page disclosed by Vanttinen such that the page could comprise a universal page message or General page message because such modification would have been considered a mere design consideration which fails to patentably distinguish over the prior art of Vanttinen. A motivation for doing so would have been to accurately determine the location of the MS.

Regarding claim 4, Arcens discloses a method (see claim 3 above) wherein sending the page comprises sending the message containing a first information element to identify service option 35 or service option 36 (i.e., position request data) (see figs. 1, 2, and paragraphs 41) and a second information element to indicate whether the message is related to the emergency-related location service or law enforcement-related location service (i.e., the position request data may comprise the requestor category, i.e., emergency service) (see paragraph 41).

Although Arcens discloses a method as described above, Arcens does not specifically disclose a method wherein the message is a paging message and wherein communicating the message comprises sending a paging request from a mobile switching center to a base station.

However, Vanttinen discloses a method wherein the message is a paging message and wherein communicating the message comprises sending a paging request (i.e., the radio network BSS transmits information in a paging message 408 to the subscriber terminal MS that the subscriber terminal MS is requested to initiate the location service. The paging message may

also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters. In that case the BSSGP PS paging message used in the GPRS or the RANAP paging message used in the UMTS has to be modified) (see paragraph 59).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to accurately determine the location of the MS.

Regarding claim 5, Arcens discloses a method (see claim 4 rejection) further comprising a base station (i.e., external data network which may be a wireless service provider or internet service provider. As known in the art a wireless service provider is a company that offers transmission services to users of wireless devices (handheld computers and telephones) through radio frequency (RF) signals. Generally, a WSP offers either cellular telephone service, personal communication service (PCS) service, or both. Thus, one skilled in the art would unhesitatingly conceptualize that a wireless service provider comprises a base station) (see paragraph 22) setting a state of the second information element based on a state of a field in a request from a mobile switching center indicating whether the request is related to the emergency-related location service or the law enforcement-related service (i.e., the position request comprises the requestor category. Thus, the state of the field in the position request is set to indicate that the position request message is from an emergency service to allow overriding of the privacy profile) (see fig. 2a, paragraphs 30, 41, 46-47).

Although Arcens discloses a method as described above, Arcens does not specifically disclose a method wherein the message is a paging message and wherein communicating the message comprises sending a paging request from a mobile switching center to a base station.

However, Vanttinen discloses a method wherein the message is a paging message and wherein communicating the message comprises sending a paging request (i.e., the radio network BSS transmits information in a paging message 408 to the subscriber terminal MS that the subscriber terminal MS is requested to initiate the location service. The paging message may also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters. In that case the BSSGP PS paging message used in the GPRS or the RANAP paging message used in the UMTS has to be modified) (see paragraph 59).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to accurately determine the location of the MS.

Regarding claim 8, Arcens discloses a method of performing a location service with respect to a mobile station (see abstract), comprising: communicating a message in a mobile communications network containing an indication of whether the message is related to at least one of an emergency-related location service and a law enforcement-related location service (i.e., in fig. 1, Arcens discloses that the mobile station comprises a user interface, a wireless network communication module, a local communication module, and a privacy engine 120 (see fig. 1). In fig. 2a, Arcens discloses that the privacy engine 120 receives a position request. The position request data may comprise requestor category (e.g.) emergency service, commercial service. As

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can be seen in fig. 1, the Location Request Application transmits and receives data to the mobile station via the external data network which may be a wireless service provider) (i.e., see fig. 1, paragraphs 21, 41, and 46-47); communicating information regarding the location of the mobile station (i.e., position data is returned to the requestor) (see paragraphs 46-47, 61, and 67); the wireless external data network receiving a position request containing a field indicating whether the position request is related to at least one of the emergency-related location service and the law enforcement-related location service (as stated above and shown in fig. 1, the Location request Application receives and transmits data to the mobile station via the external data network which may be a wireless service provider, and the position data request that is transmitted from the Location request Application comprises the requestor category (i.e., emergency service) which indicates the type of service) (see fig. 1, paragraphs 30 and 41) ; setting a state of the indication in the request based on the field contained in the position request (i.e., the position request comprises the requestor category. Thus, the state of the field in the position request is set to indicate that the position request message is from an emergency service to allow overriding of the privacy profile) (see fig. 2a, paragraphs 41, 46-47).

Although Arcens discloses a method as described above, Arcens does not specifically disclose a method wherein the message is a paging message and wherein communicating the message comprises sending a paging request from a mobile switching center to a base station.

However, Vanttinen discloses a method wherein the message is a paging message and wherein communicating the message comprises sending a paging request (i.e., the radio network BSS transmits information in a paging message 408 to the subscriber terminal MS that the subscriber terminal MS is requested to initiate the location service. The paging message may

also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters. In that case the BSSGP PS paging message used in the GPRS or the RANAP paging message used in the UMTS has to be modified) (see paragraph 59).

Also, Arcens discloses a location request application block 108 that is coupled via an external network to receive and transmit location request to the mobile station (see paragraph 30). Thus, the position request message is sent to (via) the external network and then to the mobile station.

Vanttinen discloses a method comprising a mobile services switching center 132, which is one of the devices belonging to the circuit-switched transmission of the core network CN (paragraph 30), a base station 100, and a mobile station (see fig. 1B, paragraph 25).

Now, in fig. 3, Vanttinen discloses the following steps: the core network, wherein a MSC is belonged, transmits request message for initiating location service to radio network, wherein a base station belongs. The radio network transmits information to subscriber terminal in paging message that subscriber terminal is requested to initiate location service.

Also, paragraphs 56-59 described an outside LCS_Client of the location service requests information on the location of a subscriber terminal by sending a location service request to the GMLC. Then, the core network of the radio system, i.e. the SGSN in our example, transmits a request message 406 to the radio network of the radio system, i.e. the BSS in our message, in block 302. The radio network BSS transmits information in a paging message 408 to the subscriber terminal MS that the subscriber terminal MS is requested to initiate the location service.

Therefore, one skilled in the art would have unhesitatingly conceptualized that the MSC transmits position request to the base station.

Also, as stated above, Arcens discloses a privacy engine 120 within a mobile station receives a position request. The received position request data may comprise requestor category (e.g.) emergency service, commercial service, individual person (i.e., see fig. 1, paragraphs 21, 41, and 46-47). Thus, as can be seen the position request does contain information related to emergency-related location service (i.e., emergency service), commercial service, individual person.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to accurately determine the location of the MS.

Regarding claim 11, Arcens discloses a method (see claim 1 rejection) further comprising sending a position determination data message (PDDM) containing an indication of whether the PDDM is related to at least one of an emergency-related location service and a law enforcement-related location service (i.e., as described in claim 1 rejection, the privacy engine of the mobile station receives a request for location request (i.e., a request for location/position determination), which request contains an indicator of the requester, i.e., emergency service. Such request is a message to the mobile station requesting position/location information or data (i.e., PDDM)) (see fig. 2a, paragraphs 41, 46-47).

Regarding claim 13, Arcens discloses a method (see claim 11 rejection) further comprising: receiving a position request containing a field indicating whether the position request is related to at least one of the emergency-related location service and the law

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enforcement-related location service (i.e., as described above in the rejection of claim 1, the position request may comprise requestor category (i.e., emergency service, commercial service) (i.e., see paragraph 41); and setting a state of the indication in the PDDM based on a state of the field in the position request (i.e., the position request comprises the requestor category. Thus, the state of the field in the position request is set to indicate that the position request message is from an emergency service to allow overriding of the privacy profile) (see fig. 2a, paragraphs 41, 46-47).

Regarding claim 22, Arcens discloses a system comprising: an interface (i.e., Location Request Application 108) (see fig. 1) to communicate a message to a mobile station (i.e., transmission of a location request) (see fig. 2a, paragraph 41); and a controller (inherent) to set an indication in the message for indicating that the message is related to at least one of an emergency-related service and a law enforcement-related location service (i.e., the position request data may comprise of requestor category, i.e., emergency service) (see paragraph 41).

Although Arcens discloses a method as described above, Arcens does not specifically disclose communicating a paging message to the mobile station.

However, Vanttinen discloses a method comprising communicating paging message to a mobile station (i.e., the radio network BSS transmits information in a paging message 408 to the subscriber terminal MS that the subscriber terminal MS is requested to initiate the location service. The paging message may also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters. In that case the BSSGP PS

paging message used in the GPRS or the RANAP paging message used in the UMTS has to be modified) (see paragraph 59).

Also, Arcens discloses a privacy engine 120 within a mobile station receives a position request. The received position request data may comprise requestor category (e.g.) emergency service, commercial service, individual person (i.e., see fig. 1, paragraphs 21, 41, and 46-47). Thus, as can be seen the position request does contain information related to emergency-related location service (i.e., emergency service), commercial service, individual person.

Now, what is not specifically disclosed in Arcens is that the position request is a paging signal.

Vanttinen discloses a core network of the radio system transmits a location service request message to the radio network of the radio system; (304) the radio network transmits information to a subscriber terminal in a paging message that the subscriber terminal is requested to initiate the location service (see abstract). The paging message may also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters (see paragraph 59).

Both Arcens and Vanttinen disclose a mobile station that receives a position request. The position request disclosed in Arcens included information related to emergency location service. And, Vanttinen discloses that position request received by the mobile station was sent in a paging message.

As can be appreciated above, the location request application 108 transmits request to the mobile station via the external data network 110 and the wireless network communication

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module. Therefore, one skilled in the art would immediately conceptualize that the location request application 108 can transmit request to the mobile station in a paging message. Since, this disclosure was not specifically disclosed in Arcens, Vanttinen, which disclosed transmitting location request in a paging message, is combined with Arcens.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to accurately determine the location of the MS.

Regarding claim 25, Arcens discloses a system (see claim 22 rejection) comprising a base station including the interface and controller (i.e., the external data networks which may be a wireless service provider inherently comprises of an interface and a controller) (see fig. 1, paragraph 30), wherein the message comprises a message from the base station to the mobile station (see fig. 1, paragraphs 30 and 41).

Although Arcens discloses a system as described above, Arcens does not specifically disclose communicating a paging message to the mobile station.

However, Vanttinen discloses that a radio network BSS transmits information in a paging message 408 to the subscriber terminal MS that the subscriber terminal MS is requested to initiate the location service. The paging message may also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters. In that case the BSSGP PS paging message used in the GPRS or the RANAP paging message used in the UMTS has to be modified) (see paragraph 59).

Also, Arcens discloses a privacy engine 120 within a mobile station receives a position request. The received position request data may comprise requestor category (e.g.) emergency service, commercial service, individual person (i.e., see fig. 1, paragraphs 21, 41, and 46-47). Thus, as can be seen the position request does contain information related to emergency-related location service (i.e., emergency service), commercial service, individual person.

Now, what is not specifically disclosed in Arcens is that the position request is a paging signal.

Vanttinen discloses a core network of the radio system transmits a location service request message to the radio network of the radio system; (304) the radio network transmits information to a subscriber terminal in a paging message that the subscriber terminal is requested to initiate the location service (see abstract). The paging message may also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters (see paragraph 59).

Both Arcens and Vanttinen disclose a mobile station that receives a position request. The position request disclosed in Arcens included information related to emergency location service. And, Vanttinen discloses that position request received by the mobile station was sent in a paging message.

As can be appreciated above, the location request application 108 transmits request to the mobile station via the external data network 110 and the wireless network communication module. Therefore, one skilled in the art would immediately conceptualize that the location request application 108 can transmit request to the mobile station in a paging message. Since,

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this disclosure was not specifically disclosed in Arcens, Vanttinen, which disclosed transmitting location request in a paging message, is combined with Arcens.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to accurately determine the location of the MS.

Regarding claim 26, Arcens discloses a system (see claim 22 rejection) wherein the controller is adapted to send data over a traffic channel, the data comprising a position determination data message (PDDM) containing an indication of whether the PDDM is related to emergency services (see paragraphs 41, 46, 47).

Regarding claims 27 and 33, Arcens discloses a mobile station (see fig. 1) comprising: an interface to receive a message containing an indication of whether the page is related to at least one of an emergency-related location service and a law enforcement-related location service (i.e., element 202 in fig. 2a represents a state during which the privacy engine 120 awaits reception of a request for location data information (i.e., a position request). At step 204, the privacy engine receives a position request. At step 212, the position request data are evaluated to determine whether the position request is an emergency service request. In accordance with usual statutory requirements, an emergency service request shall override the privacy policy. The position data message comprises of the requestor category, i.e., emergency service) (see paragraphs 41, 46-47); and a controller (i.e., mobile station inherently comprises of a processor or controller) to respond to the message based on the indication (i.e., position data is returned to the requestor. Thus, since Emergency position can override the privacy policy, a return of position data

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indicates is a response to the request) (see paragraphs 46-47) (see figs. 1, 2a, and paragraphs 46-47, and 67).

Although Arcens discloses a mobile station as described above, Arcens does not specifically disclose communicating a paging message to the mobile station, and wherein the message received by the mobile station is sent by a base station to initiate a call with the mobile station.

However, Vanttinen discloses that a radio network BSS transmits information in a paging message 408 to the subscriber terminal MS that the subscriber terminal MS is requested to initiate the location service. The paging message may also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters. In that case the BSSGP PS paging message used in the GPRS or the RANAP paging message used in the UMTS has to be modified (see paragraph 59).

Also, Arcens discloses a privacy engine 120 within a mobile station receives a position request. The received position request data may comprise requestor category (e.g.) emergency service, commercial service, individual person (i.e., see fig. 1, paragraphs 21, 41, and 46-47). Thus, as can be seen the position request does contain information related to emergency-related location service (i.e., emergency service), commercial service, individual person.

Now, what is not specifically disclosed in Arcens is that the position request is a paging signal.

Vanttinen discloses a core network of the radio system transmits a location service request message to the radio network of the radio system; (304) the radio network transmits

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information to a subscriber terminal in a paging message that the subscriber terminal is requested to initiate the location service (see abstract). The paging message may also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters (see paragraph 59).

Both Arcens and Vantinen disclose a mobile station that receives a position request. The position request disclosed in Arcens included information related to emergency location service. And, Vantinen discloses that position request received by the mobile station was sent in a paging message.

As can be appreciated above, the location request application 108 transmits request to the mobile station via the external data network 110 and the wireless network communication module. Therefore, one skilled in the art would immediately conceptualize that the location request application 108 can transmit request to the mobile station in a paging message. Since, this disclosure was not specifically disclosed in Arcens, Vantinen, which disclosed transmitting location request in a paging message, is combined with Arcens.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to accurately determine the location of the MS.

Regarding claim 28, Arcens discloses a mobile station (see claim 27 rejection) wherein the mobile station is configured to accept a service option specified by a message relating to an emergency-related location service or a law enforcement-related location service (i.e., element 202 in fig. 2a represents a state during which the privacy engine 120 awaits reception of a

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request for location data information (i.e., a position request). At step 204, the privacy engine receives a position request. At step 212, the position request data are evaluated to determine whether the position request is an emergency service request. In accordance with usual statutory requirements, an emergency service request shall override the privacy policy) (see paragraphs 41, 46-47), but not to accept another service option specified by a message relating to a value-added location service (i.e., the request is denied because the requestor is a commercial entity) (see paragraph 48), the controller to accept the received message in response to the indication indicating that the message is related to the emergency-related location service or law enforcement-related location service (i.e., position data is returned to the requestor. Thus, the return of position data to the requestor indicates acceptance of the request) (see paragraphs 46-47, 61, and 67).

Although Arcens discloses a mobile station as described above, Arcens does not specifically disclose communicating a paging message to the mobile station.

However, Vanttinen discloses communicating paging message to a mobile station (i.e., the radio network BSS transmits information in a paging message 408 to the subscriber terminal MS that the subscriber terminal MS is requested to initiate the location service. The paging message may also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters. In that case the BSSGP PS paging message used in the GPRS or the RANAP paging message used in the UMTS has to be modified) (see paragraph 59).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to accurately determine the location of the MS.

Regarding claim 29, Arcens discloses a mobile station (see claim 28 rejection) wherein the received message contains a first information element to indicate that the message is location-related (i.e., i.e., a position data request) (i.e., see paragraph 41), and a second information element to indicate that the message relates to an emergency service or a law enforcement service (i.e., the position request data may comprise the requestor category, i.e., emergency service) (see paragraph 41).

Although Arcens discloses a mobile station as described above, Arcens does not specifically disclose communicating a paging message to the mobile station.

However, Vanttinen discloses communicating paging message to a mobile station (i.e., the radio network BSS transmits information in a paging message 408 to the subscriber terminal MS that the subscriber terminal MS is requested to initiate the location service. The paging message may also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters. In that case the BSSGP PS paging message used in the GPRS or the RANAP paging message used in the UMTS has to be modified) (see paragraph 59).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to accurately determine the location of the MS.

Regarding claim 30, Arcens discloses a mobile station (see claim 27 rejection) comprising one of a mobile phone, a portable computer with a wireless modem, a wireless-enabled personal digital assistant (PDAs), and a global positioning system (GPS) device (i.e., mobile station) (see fig. 1).

Regarding claim 31, Arcens discloses a method as described (see claim 1 rejection).

Arcens does disclose a method wherein communicating the message to the mobile station comprises communicating a message from a base station to the mobile station, the message containing the indication of whether the message is related to the at least one of the emergency-related location service and a law enforcement-related location service, and the message sent by the base station to the mobile station to initiate a call with the mobile station (i.e., in fig. 1, Arcens discloses that the mobile station comprises a user interface, a wireless network communication module, a local communication module, and a privacy engine 120 (see fig. 1). In fig. 2a, Arcens discloses that the privacy engine 120 receives a position request. The position request data may comprise requestor category (e.g.) emergency service, commercial service, individual person (i.e., see fig. 1, paragraphs 21, 41, and 46-47).

Arcens, however, does not specifically disclose communicating a paging message to the mobile station.

However, Vanttinen discloses a method comprising communicating paging message to a mobile station (i.e., the radio network BSS transmits information in a paging message 408 to the subscriber terminal MS that the subscriber terminal MS is requested to initiate the location service. The paging message may also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g.

technology-dependent parameters and service-dependent parameters. In that case the BSSGP PS paging message used in the GPRS or the RANAP paging message used in the UMTS has to be modified) (see paragraph 59).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to accurately determine the location of the MS.

Regarding claim 32, Arcens discloses a method as described above (see claim 15 rejection).

Arcens does disclose a method wherein receiving the message comprises receiving a message from a base station to initiate a call with the mobile station, the message containing the indication that the page is related to at least one of the emergency-related location service and the law enforcement-related location service (i.e., in fig. 1, Arcens discloses that the mobile station comprises a user interface, a wireless network communication module, a local communication module, and a privacy engine 120 (see fig. 1). In fig. 2a, Arcens discloses that the privacy engine 120 receives a position request. The position request data may comprise requestor category (e.g.) emergency service, commercial service, individual person (i.e., see fig. 1, paragraphs 21, 41, and 46-47).

Arcens, however, does not specifically disclose communicating a paging message to the mobile station.

However, Vantinen discloses a method comprising communicating paging message to a mobile station (i.e., the radio network BSS transmits information in a paging message 408 to the subscriber terminal MS that the subscriber terminal MS is requested to initiate the location

service. The paging message may also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters. In that case the BSSGP PS paging message used in the GPRS or the RANAP paging message used in the UMTS has to be modified) (see paragraph 59).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to accurately determine the location of the MS.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arcens and Vantinen, further in view of Applicant's admitted prior art (Admission), Pub. No. US 20040180655.

Arcens discloses a method comprising receiving position request containing a field indicating whether the position request is related to at least one of emergency-related location service and law enforcement-related location service (see paragraphs 41, 46-47).

Although Arcens discloses a method as described above, Arcens does not specifically disclose a method wherein the receiving the position request comprises receiving an InterSystemPositionRequest INVOKE (ISPOSREQ) message containing a CTYP field.

However, Applicant's admitted prior art (admission) discloses standards wherein the MSC may receive the InterSystemPositionRequest INVOKE (ISPOSREQ) message, which may contain a CTYP field (see admission page 1, paragraph 6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have a received position request, which comprises receiving InterSystemPositionRequest INVOKE (ISPOSREQ) that contains a CTYP field to better categorized the Location Request Application.

7. Claims 12, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arcens and Vanttinen, further in view of Applicant's admitted prior art (Admission).

Regarding claim 12, Arcen discloses a method as described above (see claim 11 rejection).

Although Arcens discloses a method as described, Arcens does not specifically disclose a method wherein sending the PDDM message comprises sending a TIA/EIA/IS-801 PDDM message.

However, Applicant's admitted prior art (admission) discloses that the TIA/EIA/IS-801 standard defines protocol messaging conveyed between the mobile station and the PDE that includes positioning determination data messages (see admission page 1, paragraph 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to send a location determination message that comprises sending an TIA/EIA/IS-801 message to better categorized the Location Request Application. Also, Applicant has not disclosed that sending a message comprising an TIA/EIA/IS-801 PDDM message solves or accomplishes any stated problem. Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to have considered that sending a location determination message that comprises sending an TIA/EIA/IS-801 message because such request

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message would have been a mere design consideration which fails to patentably distinguish over the prior art of Arcens.

Regarding claim 14, Arcens discloses a method comprising receiving position request containing a field (see claim 13 rejection).

Although Arcens discloses a method as described above, Arcens does not specifically disclose a method wherein receiving the position request containing the field comprises receiving a GeoPositionRequest INVOKE (GPOSREQ) message containing a CTYP field.

However, Applicant's admitted prior art (admission) discloses a method wherein receiving the position request containing the field comprises receiving a message containing a CTYP field (see page 1, paragraph 6). Also, applicant has not disclosed that having a receiving position request comprising receiving a GeoPositionRequest INVOKE (GPOSREQ) message solves or accomplishes any stated problem. Moreover, it appears that the request message disclosed by Havinis would have been received whether or not the received message comprises a GeoPositionRequest INVOKE (GPOSREQ) message.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to consider sending a position request message comprising a GeoPositionRequest INVOKE (GPOSREQ) message because such sending request message would have been a mere design consideration which fails to patentably distinguish over the prior art of Arcens.

8. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arcens in view of Vanttinen and Havinis et al. (Havinis) U.S. Patent No. 6195557

Regarding claim 15, Arcens discloses a method comprising: receiving a message by a mobile station that is configured to accept an emergency-related location service or a law enforcement-related location service (i.e., element 202 in fig. 2a represents a state during which the privacy engine 120 awaits reception of a request for location data information (i.e., a position request). At step 204, the privacy engine receives a position request. At step 212, the position request data are evaluated to determine whether the position request is an emergency service request. In accordance with usual statutory requirements, an emergency service request shall override the privacy policy) (see paragraphs 41, 46-47), but not a value-added service location service (i.e., the request is denied because the requestor is a commercial entity) (see paragraph 48), the message containing an indication that the message is related to at least one of the emergency-related location service and the law enforcement-related service (i.e., the position request data may comprise of requestor category, i.e., emergency service) (see paragraph 41); and the mobile station responding to the message by sending a response indicating acceptance of a location service-related service option specified in the message (i.e., position data is returned to the requestor. Thus, since Emergency position can override the privacy policy, a return of position data indicates is a response to the request) (see paragraphs 46-47).

Although Arcens discloses a method as described, Arcens does not specifically disclose communicating a paging message to the mobile station, nor does it disclose a method wherein a mobile station that is not on a traffic channel received a page.

However, Havinis discloses a method wherein a mobile station that is not on a traffic channel received a page (see col. 7, lines 2-7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by Arcens and Havinis to arrive at the claimed invention. A motivation for doing so would have been to set up a call to the mobile station if the mobile was in idle mode in order to ensure that the mobile station properly receives the location request (see col. 7, lines 2-7).

Although Arcens and Havinis disclose a method as described, Arcens and Havinis do not specifically disclose communicating a paging message.

Vantinen, however, discloses a method comprising communicating paging message to a mobile station (i.e., the radio network BSS transmits information in a paging message 408 to the subscriber terminal MS that the subscriber terminal MS is requested to initiate the location service. The paging message may also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters. In that case the BSSGP PS paging message used in the GPRS or the RANAP paging message used in the UMTS has to be modified) (see paragraph 59).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to accurately determine the location of the MS.

Regarding claim 16, Arcens discloses a method (see claim 15 rejection) further comprising the mobile station determining, by examining the message, that the location service-related service option requested in the message should be accepted, based on association of the message with either an emergency-related location service or a law enforcement-related location

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service the position request data are evaluated to determine whether the position request is an emergency service request. In accordance with usual statutory requirements, an emergency service request shall override the privacy policy) (see paragraphs 41, 46-47).

Although Arcens discloses a method as described, Arcens does not specifically disclose communicating a paging message to the mobile station.

However, Vanttinen discloses a method comprising communicating paging message to a mobile station (i.e., the radio network BSS transmits information in a paging message 408 to the subscriber terminal MS that the subscriber terminal MS is requested to initiate the location service. The paging message may also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters. In that case the BSSGP PS paging message used in the GPRS or the RANAP paging message used in the UMTS has to be modified) (see paragraph 59).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to accurately determine the location of the MS.

Regarding claim 17, Arcens discloses a method (see claim 15 rejection) further comprising: the mobile station communicating position determination data messages (PDDMs) on the traffic channel with a position determination entity (PDE) (see paragraph 61); the mobile station determining whether one or more received PDDMs are related to the emergency-related location service or law enforcement-related location service (see paragraphs 41, 46-47, and 61); and in response to determining that the one or more received PDDMs are related to the

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emergency-related location service or law enforcement-related location service, the mobile station accepting request elements in the one or more received PDDMs (i.e., position data is returned to the requestor. Thus, the return of position data to the requestor indicates acceptance of the request) (see paragraphs 46-47, 61, and 67).

9. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arcens in view of Havinis.

Regarding claim 18, Arcens discloses a mobile station comprising a storage medium (see fig. 1) containing instructions that when executed cause a mobile station in a wireless communications network to receive a location request on the traffic channel containing an indication of that the location request is related to at least one of an emergency-related location service and a law enforcement-related location service (see paragraphs 41, 46-47); and send location information of the mobile station in response to the location request (i.e., position data is returned to the requestor. Thus, the return of position data to the requestor indicates acceptance of the request) (see paragraphs 46-47, 61, and 67).

Although Arcens discloses a mobile station as described above, Arcens does not specifically disclose receiving messaging to cause the mobile station to move to a traffic channel in response to a callback by at least one of an emergency services entity and a law enforcement entity.

However, Havinis discloses a method and system wherein once the serving MLC 370 determines that positioning can continue (step 530), e.g., either the POK 399 with the value

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"override" is accepted (step 500) or the POK 399 is set to "not override" (step 520) and the subscriber allows positioning (step 530), the MLC 370 can then send the positioning request to the serving MSC/VLR 360 (step 535), which can then forward the positioning request to a Base Station Controller (BSC) 340 (step 540). If the MS 300 is in idle mode, the serving MSC/VLR 360 must page the MS 300 and setup a call to the MS 300 prior to forwarding the positioning request 382 to the BSC 340 (step 540). See col. 7, lines 2-7.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to accurately determine the location of the MS.

Regarding claim 19, Arcens discloses a mobile station (see claim 18 rejection) wherein receiving the location request comprises receiving a position determination data message (PDDM) containing the indication (i.e., as described in claim 1 rejection, the privacy engine of the mobile station receives a request for location request (i.e., a request for location/position determination), which request contains an indicator of the requester, i.e., emergency service. Such request is a message to the mobile station requesting position/location information or data (i.e., PDDM)) (see fig. 2a, paragraphs 41, 46-47).

Regarding claim 20, Arcens discloses a mobile station (see claim 18 rejection) wherein the mobile station has been configured to accept an emergency-related location service or a law enforcement-related location service (i.e., element 202 in fig. 2a represents a state during which the privacy engine 120 awaits reception of a request for location data information (i.e., a position request). At step 204, the privacy engine receives a position request. At step 212, the position request data are evaluated to determine whether the position request is an emergency service

request. In accordance with usual statutory requirements, an emergency service request shall override the privacy policy) (see paragraphs 41, 46-47), but not a value-added service location service (i.e., the request is denied because the requestor is a commercial entity) (see paragraph 48), the instructions when executed causing the mobile station to determine whether to accept the location request based on the indication contained in the location request (i.e., the position request data may comprise of requestor category, i.e., emergency service) (see paragraph 41), wherein sending the location information is performed in response to determining that the location request is to be accepted (i.e., position data is returned to the requestor. Thus, since Emergency position can override the privacy policy, a return of position data indicates is a response to the request) (see paragraphs 46-47).

10. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arcens and Havinis, further in view of Vanttinen.

Regarding claim 21, Arcens discloses an article (see claim 18 rejection) wherein the instructions when executed cause the mobile station to further: receive a message from a base station (i.e., Location Request Applications 108 is coupled, via the external data network 110 and the Wireless Network Communication Module 112, to receive and transmit data to the Privacy Engine 120) (see paragraphs 30 and 41), the message containing an indication that the message is associated with at least one of an emergency-related location service and a law enforcement-related location service (i.e., the position request data may comprise of requestor category, i.e., emergency service) (see paragraph 41); and respond to the responding to the message by

accepting a service option of the message based on the indication (i.e., position data is returned to the requestor. Thus, since Emergency position can override the privacy policy, a return of position data indicates is a response to the request) (see paragraphs 46-47).

Although Arcens discloses a mobile station as described above, Arcens does not specifically disclose communicating a paging message to the mobile station.

However, Vanttinen discloses communicating paging message to a mobile station (i.e., the radio network BSS transmits information in a paging message 408 to the subscriber terminal MS that the subscriber terminal MS is requested to initiate the location service. The paging message may also contain a cause code for transmitting the message. Furthermore, the paging message may include other information on the location service, e.g. technology-dependent parameters and service-dependent parameters. In that case the BSSGP PS paging message used in the GPRS or the RANAP paging message used in the UMTS has to be modified) (see paragraph 59).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to accurately determine the location of the MS.

11. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arcens and Vanttinen, further in view of Havinis.

The combination discloses a system as described (see claim 22 rejection).

Although the combination discloses a system as described, the combination does not specifically disclose a system wherein the controller is adapted to send the message to the mobile

station in response to an idle-mode query initiated by an emergency services entity to the mobile station.

However, Havinis discloses a method wherein a mobile station that is not on a traffic channel received a page (see col. 7, lines 2-7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to accurately determine the location of the MS.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PIERRE-LOUIS DESIR whose telephone number is (571)272-7799. The examiner can normally be reached on Monday-Friday 9:00AM- 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on (571)272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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